

Exoplanet Program Analysis Group (ExoPAG) Report

APAC

Michael Meyer (ExoPAG EC Chair)
June 23rd, 2020.



ExoPAG Executive Committee

ExoPAG activities and meetings are organized through an Executive Committee

Michael Meyer (Chair)	University of Michigan
Tom Barclay	University of Maryland
<i>Natasha Batalha</i>	<i>NASA-Ames</i>
<i>Jacob Bean</i>	<i>The University of Chicago</i>
Jessie Christiansen	NExSci/Caltech
Rebecca Jensen-Clem	UC-Santa Cruz
<i>John Debes</i>	<i>Space Telescope Science Institute</i>
Tiffany Kataria	JPL/Caltech
Josh Pepper	Lehigh University
Dmitry Savransky	Cornell
<i>Laura Schaefer</i>	<i>Stanford University</i>
Vikki Meadows (Past Chair)	University of Washington
Doug Hudgins (Astrophysics)	NASA HQ
<i>Doris Daou (Planetary)</i>	<i>NASA HQ</i>
<i>Richard Eckmann (Earth)</i>	<i>NASA HQ</i>

Our newest members!

Credit: NASA

ExoPAG Recent Activities

- New EC Members appointed with monthly telecons on-going.
- Cross-PAG “Exoplanets in Our Backyard” Meeting findings released.
- Supporting Planetary Decadal Survey.
- COVID-19 Survey initiated by COPAG.
- ExoPAG22 Virtual Meeting June 18-19, 2020 meeting:
 - Updates on PI Launchpad, Planetary Discovery studies, ARIEL/CASE, CHEOPS, Nancy Grace Roman Space Telescope CGI, and JWST.
 - EPRV recommendations released and new opportunity announced.
 - Four presentations by early career scientists.
 - Community concerned about institutional racism.
 - The EC + ExEP met following to ExoPAG22 to discuss priorities.

PLANET HOP FROM
TRAPPIST-1
Credit: NASA

VOTED BEST "STUDY ABROAD" DESTINATION

Current Status of SAGs and SIGs

Close Year	SAG or SIG	Title	Lead
2020	SAG 19	Exoplanet imaging signal detection theory and rigorous contrast metrics (active - closeout expected soon)	Mawet & Jensen-Clem
----	SIG 2	Exoplanet Demographics (on-going)	Christiansen & Meyer
----	SIG 3	Exoplanet Solar System Synergies (approved).	Meadows & Mandt
----	SAG 2X	Stellar Contamination on Transit Spectra (proposed)	Rackham & Espinoza (Barclay)
----	SAG 2X	Exoplanet Host Properties (proposed)	Pepper, Stark, & Hinkel

SIG 2 - Exoplanet Demographics

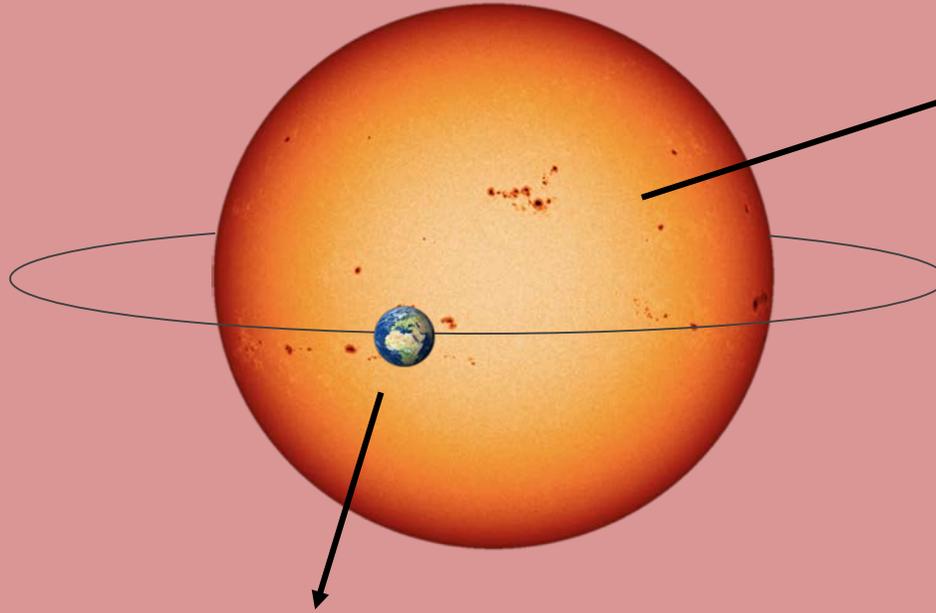
Chairs: Jessie Christiansen (NExSci/IPAC) & M. Meyer (UM)

- Successful symposium at ExoPAG 21 in Honolulu.
- Monthly telecons discuss new demographic results from multiple techniques (radial velocity, microlensing, transit, direct imaging).
- Drafting report on value of public database of demographic products.
- Curating a list of open questions/ongoing projects for the community.
- NExSci is hosting a related workshop in the fall.
<https://nexsci.caltech.edu/conferences/exodem/>

SIG 3 ExoSS Goals, Progress, Plans

- **Chairs:** Victoria Meadows (UW/NExSS/ExoPAG), Kathy Mandt (JHU/APL/OPAG)
- **Goal:** To provide a forum for interaction between the Solar System and exoplanet communities on topics of mutual interest, and to work to identify ways in which NASA and the scientific community could enhance these interactions.
- **Status:** The SIG3 is now approved and open to all.
- **Pre-Formation Activities:**
 - Exoplanets In Our Backyard Conference, February 5-7, Houston: Findings to HQ and on website
 - ExoSS Slack Channel – all are welcome! (If you would like to join: meadows@uw.edu)
- **Current and Upcoming Activities**
 - Creation of community document to gather input on ExoSS synergies
 - Promoting community-led Planetary Decadal activities: List of lists - <https://bit.ly/3fu6ang>
 - Recruiting members from diverse scientific communities.
 - Inaugural SIG3 meeting planned for early July
 - Plan to organize ExoSS webinars, develop joint SIG reports/review papers that identify beneficial avenues for future joint research between the exoplanet and Solar System communities, potential collaboration with the upcoming NExSS Hab Worlds 2 conference.

Proposed SAG: The Effect of Stellar Contamination on Space-based Transmission Spectroscopy



What do we know & what can we learn from the star?

e.g., chromospheric activity, photometric monitoring, polarization

What can we **learn from transits**?

Planet

e.g., transit spectroscopy

Star

e.g., unocculted surface, occulted active regions, flares.

What will the impact be on **future studies**?

What **complementary observations** will be useful?

Coordinators: Néstor Espinoza, Ben Rackham, & Tom Barclay

Proposed SAG – Exoplanet Host Properties

Lead by Joshua Pepper, Chris Stark, Natalie Hinkel

- Define a high priority stellar sample to study that is relevant to many of the NASA exoplanet-related missions
- Survey the broad exoplanet community (e.g., including planetary scientists, geologists, biologists) to determine data required for characterizing stellar and planetary systems
- Define what properties are most important to include
- Identify categories of typical end users of this catalog
- Find community consensus regarding methods for archive implementation and maintenance, based on high priority and low priority data products needed for characterization.

ExoPAG 2020 Future Activities

- New areas for possible action: zodiacal dust and HCl.
- Map the Science Gap List to key areas for ExoPAG effort:
 - new process to review in summer 2020.
 - New monthly seminar series to support this.
- Continue to collect community input via fall forum.
(e.g. to develop findings for discussion at ExoPAG 23).
- Continue monthly ExoPAG EC, SIG2/SIG3/SAG-21/SAG-22 telecons
- Review what ExoPAG can do to help dismantle institutional barriers to realizing a truly diverse, equitable, and inclusive community.
- Update ExoPAG website.
- Present to Planetary Division Advisory Committee in August.
- Final report on data challenge and closeout SAG-19 this fall.
- ExoPAG23 planned for January 2021 at winter AAS.

Action Requested by ExoPAG EC

- Approve TOR for two new proposed SAGs.